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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/825,225      | 04/03/2001  | Larry D. Barto       | M-7511 US           | 9817             |

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EXAMINER

FRANK, ELLIOT L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2125

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/825,225

Applicant(s)

BARTO ET AL.

Examiner

Elliot L Frank

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED FINAL ACTION**

### ***Response to Amendment***

1. The following response is a **final** office action in regard to applicant's Amendment (C) filed on 5 May 2003.
2. The corrections or explanations made in response to items 1-3 of the previous office action, sent 21 January 2003, have been considered and are accepted.
3. Claims 1-26 remain pending from the previous office action, wherein all of the claims 1-26 were rejected as being anticipated by Weaver et al.
4. The previous rejection is maintained as follows:

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Weaver et al. (USPN 5,446,671).

The limitations of the aforementioned claims, and the relevant citations in Weaver et al., are as follows:

1. An automated system that monitors work-in-process ("WIP") in a manufacturing facility (column 1, lines 8-13), comprising:

a software object that determines when an evaluation cycle should be invoked;  
and

a recommendation wakeup listener object that performs the evaluation cycle  
(column 4, line 53-column 5, lines 5), the recommendation wakeup listener object  
further including:

a software object that identifies a bottleneck workstation;

a software object that calculates a WIP value representing the amount of work  
approaching the bottleneck workstation;

a software object that determines whether the WIP value is projected to fall  
below a control limit during an evaluation period; and a software object that  
recommends, if the WIP value is projected to fall below the control limit during the  
evaluation period, that a selected amount of additional work be released into the  
manufacturing line (column 1, line 44-column 2, line 26).

2. The automated system recited in Claim 1, wherein the work approaching the  
bottleneck workstation comprises one or more product types (column 3, lines 3-25).

3. The automated system recited in Claim 1, wherein the additional work  
comprises one or more product types (column 2, lines 40-52).

4. The automated system recited in Claim 1 further comprises: a software object  
that selects one or more product types for the selected amount of additional work  
(column 5, lines 6-50).

10. The method recited in Claim 8, wherein: providing a software object to  
identify a bottleneck workstation further comprises employing a software object to

identify one or more of a plurality of bottleneck workstations (column 5, lines 6-15, wherein a resource query takes place to determine the state of the machines in the system).

11. The method recited in Claim 8, wherein providing a software object to calculate a WIP value representing the amount of work approaching the bottleneck workstation further comprises employing a software object to calculate a WIP value for each of a plurality of bottleneck workstations, wherein each of the WIP values represents work approaching the corresponding bottleneck workstation (column 1, line 44-column 2, line 26).

12. The method recited in Claim 8 wherein: providing a software object to determine whether the WIP value is projected to fall below a control limit during an evaluation period further comprises employing a software object to determine whether any of a plurality of WIP values is projected to fall below the control limit during the evaluation period (column 5, line 51-column 6, line 11).

13. The method recited in Claim 8, wherein: providing a software object to recommend, if the WIP value is projected to fall below the control limit during the evaluation period, that a selected amount of additional work be selected for the bottleneck workstation further comprises employing a software object to recommend, if the WIP value associated with each of a plurality of bottleneck workstations is projected to fall below the control limit during the evaluation period, that a selected amount of additional work be released into the manufacturing line (column 5, line 51-column 6, line 11).

Method claims 8 and 14 and facility claim 20 have the same functional limitations as claim 1, and are therefore anticipated by the same citations in Weaver et al.

System claim 5 and facility claim 24 have the same functional limitations as claim 1 as it is applied to multiple bottleneck machines. Weaver et al. anticipates the occurrence of multiple bottlenecks at column 2, lines 28-62.

System claim 7, method claim 16, and facility claims 21 and 26 have the same functional limitations as claim 2, and are therefore anticipated by the same citations in Weaver et al.

System claim 6, method claims 9 and 15, and facility claims 22 and 25 have the same functional limitations as claim 3, and are therefore anticipated by the same citations in Weaver et al.

Facility claim 23 has the same functional limitations as claim 4, and is therefore anticipated by the same citations in Weaver et al.

Method claims 17, 18 and 19 have the same functional limitations as claims 11, 12 and 13 respectively, and are therefore anticipated by the same citations in Weaver et al.

Claims 1-26 are read in entirety in Weaver et al.

### ***Response to Arguments***

7. Applicant's arguments filed 5 May 2003 have been fully considered but they are not persuasive.

The following claim associations were made in the rejection from the previous office action:

- System claims 5 and 24 have the same functional limitations as claim 1.
- Method claims 8 and 14 have the same functional limitations as claim 1.
- Facility claim 20 has the same functional limitations as claim 1.

Therefore to avoid redundancy, the discussion in response to the applicant's arguments will be addressed to claim 1.

The applicant has argued that the Weaver et al. system (USPN 5,446,671 A) does not anticipate the limitations of the instant invention. The examiner respectfully disagrees given the following explanation.

Weaver does teach an automated system that monitors work in process in a manufacturing facility. Column 1, lines 8-13 discusses a system that optimizes utilization of universal equipment that feeds a production step containing one or more potential bottlenecks. This process of optimizing potential bottlenecks necessarily includes monitoring the work in process, which is supported by the recitation of the WIP monitoring in Weaver et al. at column 3, lines 48-66.

Claim 1 also requires a software object that determines when an evaluation cycle should be invoked, and a recommendation wakeup listener object that performs the evaluation cycle. Column 4, line 53-column 5, line 5 discusses a software object written in any available language that has a sleep or standby mode. The software decides to perform an analysis or "is driven" to perform an analysis when specified manufacturing conditions exist which perpetuate interrupts.

The program upon seeing a condition requiring analysis, then performs said analysis where it determines whether a bottleneck exists at a manufacturing location (column 1, line 44-column 2, line 26, specifically step "(a)"), and subsequently decides whether the next lot to be manufactured should be released based on the trend at the bottleneck with regard to the maximum allowed product queue  $Q_{MAX}$  and the minimum queue quantity  $Q_{MIN}$ . The decision process is described in steps (b)-(h) of the Weaver et al. system, which reads directly upon the requirements of the aforementioned claim 1 in that additional work is released to the manufacturing line based on where a calculated WIP value is projected to fall in a control limit.

The above explanation addresses the arguments of the applicant with respect to claim 1. The arguments presented against the other independent claims are deemed to have been addressed given the same functional limitations in those claims. The rejections against the dependant claims were only discussed in their relationship to the independent claims.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elliot L Frank whose telephone number is (703) 305-5442. The examiner can normally be reached on M-F 7-4:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.

ELF  
May 20, 2003

  
**ALBERT W. PALADINI**  
**PRIMARY EXAMINER**